

an appliance;

a supervisory unit operably connected to the appliance; and

B⁴ means for transmitting to said supervisory unit status information on the appliance and for transmitting one of a plurality of priorities associated with the status information;

said supervisory unit comprising a screen and an operating system for displaying on said screen a message reflecting the status information of said appliance, the operating system displaying said message on said screen based upon said one of the priorities associated with the status information.

20. (Amended) The system of claim 17, wherein:

B⁵ the operating system of said supervisory unit comprises an electrically operated display device in which said screen is incorporated; and

the operating system of said supervisory unit is operably configured to turn on said display device and to display said message based on said one of the priorities associated with the status information having a predetermined value.

REMARKS

Claims 1-20 are pending in the above-identified application. Claims 1-20 were rejected. With this Amendment, claim 3 was cancelled, and claims 1, 12-15, 17 and 20 were amended. Accordingly, claims 1-2 and 4-20 are at issue in the above-identified application.

I. Substitute Declaration/Oath

The Examiner stated that Applicants' previous amendment dated July 12, 2002 specified an amendment to the Cross-Reference section of the application to correct the claim to a provisional application but the amendment specified the incorrect provisional application number. Accordingly, Applicants have amended the specification to identify the correct provisional application number. No new matter was added to the specification. Applicants also submit herewith a substitute declaration that correctly identifies the Applicants claim to priority to the provisional and to the benefit of the earlier filed copending applications.

II. Anticipation Rejection of Claims Under 35 USC §§ 102(e) and Obviousness Rejection of Claims Under 35 USC § 103(a)

The Examiner rejected claims 1-6 and 9-19, of which claims 1, 12-15, and 17 are independent, under 35 U.S.C. 102(e) as purportedly being anticipated by Jeon et al., US Patent No. 5,822,012. The Examiner also rejected claims 7-8 and 20 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Jeon in view of Humpleman, US Patent No. 6,243,707. Applicant respectfully traverses this rejection and request withdrawal of the same.

The Examiner argues that Jeon teaches all the limitations of claim 1, including means for monitoring the performance of the appliance. Applicants respectively disagree. Jeon does not teach the structures disclosed in the application for performing this means-plus-function limitation or recited in claim 1 as amended. *See In re Donaldson Co.*, 16 F.3d 1189, 1194-95ed. Cir. 1994) (holding that the structure disclosed in the specification corresponding to the means-plus-function limitation cannot be disregarded by the PTO when rendering a patentability determination.)

Applicants teach that the means for monitoring the performance of the appliance in the system includes an integrated unit 26 that has a controller or operating system 56 which includes an appliance control, supervision, and feedback interface 78 linked to a power line modem 82. Applicants further teach that the means for monitoring the performance of the appliance includes a power line modem 86, sensors 162 and a microprocessor 164 all located in the appliance for, among other functions, communicating readings of the sensors to the controller or operating system 56 of the integrated unit 26 for further diagnostic processing (e.g., detecting a defective heating element of kitchen range 24 of Fig. 3). (*See Application*, at pg. 6 line 24-29; pg. 7 lines 1-5, 11-17; pg. 8 lines 11-15; pg. 9 lines 21-26; pg. 11 lines 1-3; pg. 11 line 17 - pg. 12 line 20; Figs 2-4).

Furthermore, in one implementation consistent with methods and systems of the present invention, Applicants teach that the microprocessor 164 is capable of monitoring the performance of the appliance by detecting the status of an element of the appliance (e.g., defective heating element of kitchen range 24 of Fig. 3) and of transmitting a diagnostic message indicative of the status through the power line modem 86 to the power line modem 82 of the integrated unit 26. (*Application*, at pg. 11 line 17- pg. 12 line 20; Figs. 2-4). Applicants further teach that the integrated unit 26 in this implementation may have a phone modem 82 and that the integrated unit 26 sends the diagnostic message via the phone modem 82 to a service/repair center designated by a user. (*Application*, at pg. 12 lines 1-20; Figs. 2-4). Applicants also teach that the service/repair center personnel is able to interrogate and obtain additional information from the system pertinent to the problem corresponding to the diagnostic message once the

connection between the system and the service/repair center has been established. (Application, at pg. 12 lines 9-11).

In another implementation, Applicants teach the means for monitoring the performance of the appliance may include having the integrated unit 26 periodically collect data indicative of the status of the appliance (e.g., operating temperature of a refrigerator), compare the data to reference data to identify a particular problem with the appliance (e.g., a loss of refrigerant or a loose belt of the refrigerator), and transmit the discovered problem as a diagnostic message to the service/repair center. (Application, at pg. 13 line 23 - pg. 14 line 13; Figs. 2-4, 12). Applicants disclose that this implementation, which is consistent with methods and systems of the present invention, allows service/repair personnel to identify parts, tools, etc. needed to repair the problem without having to make multiple, time consuming and expensive trips to the site of the appliance.

Regarding claim 1 as amended, Applicants claim a system that includes “an appliance operably connected to a power line,” “means for monitoring the performance of said appliance, in which the appliance monitoring means includes a power line modem operably connected to the power line,” and “means for transmitting data indicative of the status of said appliance from said monitoring means to a facility physically remote from the appliance and the appliance monitoring means.”

Independent claims 12-15 have similar limitations.

Jeon discloses a home automation apparatus that uses a digital television receiver to remotely control an appliance (e.g., air conditioner, hot tub, rice cooker, coffee pot) in the home. (See Jeon, Abstract; Col. 2 lines 25-30, 58-63; Col. 3 lines 17-22; Fig. 1). Jeon further discloses

that the home automation apparatus has a sensor input unit 60 that receives signals from various sensing devices 90 for monitoring the performance of other appliance devices (e.g., gas furnace, fire alarm, thermostat, security alarm) in the home. (See Jeon, Abstract; Col. 2 lines 49-56).

Thus, Jeon teaches that the system has sensors for detecting and informing a user of emergency problems in the home but not to monitor the performance of appliances that it controls, such as the hot tub, rice cooker, or coffee pot.

Jeon also discloses a communication modem 50 that is connected to a digital or telephone network that is used to communicate the emergency problems to a user outside the home. But the communication modem 50 is not connected to a power line that supplies power to an appliance being monitored. (See Jeon, Col. 3 lines 1-13; Col. 4 lines 2-11; Fig. 1). Thus, Jeon fails to teach or suggest the structures for performing the function of monitoring the performance of an appliance as taught and claimed by Applicants. In particular, Jeon fails to teach or suggest that the Jeon home automation apparatus has a power line modem operably connected to a power line for monitoring the performance of the appliance. In addition, Jeon fails to teach or suggest that the sensing devices are incorporated into the appliance being monitored (e.g., air-conditioner, boiler, rice cooker, etc.) or that the appliance also has a power line modem operably connected to the sensing devices for monitoring the performance of the appliance as taught and claimed by Applicants. Accordingly, Applicants request that the rejection to independent claims 1 and 12-15 be withdrawn.

Regarding claim 17 as amended, Applicants claim a system that includes “a supervisory unit” for an appliance and a “means for transmitting to said supervisory unit status information on the appliance and for transmitting *one of a plurality of priorities associated with the status*

information.” The supervisory unit as claimed includes a screen and an operating system for displaying on the screen a message reflecting the status information of the appliance. Claim 17 further recites the limitation that *the operating system of the supervisory unit displays the message on the screen based upon the one of the priorities associated with the status information.*

Applicants disclose that in one embodiment the operating system of the supervisory unit is configured to turn on the screen (if the screen is off) to display the message reflecting the status information when the priority transmitted with the status information is a predetermined value, such as a priority of 1. Otherwise, if the priority is not the predetermined value, such as a priority of 2, 3 or 4, the operating system saves the message to display the next time that the screen is turned on. (See Application, at pg. 11 line 21 - pg. 12 line 22, Figs 9-10).

The Examiner argues that Humpleman teaches the Claim 17 limitation that *the operating system of the supervisory unit displays the message on the screen based upon the one of the priorities associated with the status information.*

Humpleman discloses a system for commanding and controlling diverse home devices, such as a player piano, that are connected to a home network. Humpleman also teaches that the system has a command interpreter for capturing user interactions and creating a corresponding macro for each user interaction and storing the macros in a macro file in the sequence in which the user interactions are captured. Humpleman teaches that the user may later access and execute the macros in the macro file to control the home device. (See Humpleman, Abstract, Col. 22 lines 19-39; Fig. 16) Humpleman, however, fails to teach, alone or in combination with Jeon all the limitations of Claim 17. In particular, neither reference teaches the limitation that *the*

operating system of the supervisory unit displays the message on the screen based upon the one of the priorities associated with the status information as taught and claimed by Applicants.

Claims 2-11 depend from independent claim 1 and should be allowed for at least the same reasons as claim 1. Claim 16 depends from independent claim 15 and should be allowed for at least the same reasons as claim 15. Claims 18-20 depend from independent claim 17 and should be allowed for at least the same reasons as claim 17. Accordingly, Applicants request that the rejection to these claims be withdrawn.

CONCLUSION

In view of the above amendments and remarks, Applicants submit that all pending claims are clearly allowable over the cited prior art, and respectfully request early and favorable notification to that effect. If the Examiner believes that a conference would be of value in expediting the prosecution of this application, the Examiner is invited to telephone the undersigned counsel to arrange for such a conference.

Respectfully submitted,

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APPENDIX A
VERSION WITH MARKINGS TO SHOW CHANGES MADE IN THE SPECIFICATION

On page 1; the paragraph starting at line 3 is amended as follows:

The present application is copending with and entitled to the benefit of the filing date of provisional application No. [60/174,964]60/052,703 filed 16 July 1997 and also entitled INTEGRATED UNITS WITH DIAGNOSTIC CAPABILITIES. This application is also related to and claims the benefit of the filing date of the following identified U.S. patent applications, which are incorporated herein by reference to the extent allowable by law:

APPENDIX B
VERSION WITH MARKINGS TO SHOW CHANGES MADE IN CLAIMS

Cancel claim 3 without prejudice, disclaimer, and without admitting to anticipation or obviousness.

Claims 1, 12-15, 17 and 20 are amended as follows:

1. (Twice Amended) A system, comprising:

an appliance operably connected to a power line;

means for monitoring the performance of said appliance, the appliance monitoring means including a power line modem operably connected to the power line; and

means for transmitting data indicative of a status of said appliance from said monitoring means to a facility physically remote from the appliance and the appliance monitoring means.
12. (Twice Amended) A system, comprising:

an appliance; and

an integrated unit for monitoring said appliance, said integrated unit comprising a screen and an appliance control and feedback interface operably connected to the appliance;

said integrated unit having an operating system [with the capability of powering]operably configured to power up said integrated unit to display a message on said screen [if]when a fault that arises in said appliance is received by the appliance control and feedback interface.
13. (Amended) A system which comprises:

means for monitoring the performance of an appliance connected to a power line, said appliance monitoring means including a power line modem operably connected to the power line; and

means operable if a fault in the operation of said system occurs for communicating the existence and nature of said fault to a service or repair facility remote from said appliance.

14. (Twice Amended) A system, comprising
an appliance connected to a power line; and
an integrated unit for monitoring said appliance, said integrated unit having a power line modem operably connected to the power line ;

said integrated unit having a screen and an operating system capable of causing a display message indicative of a fault in said appliance being displayed on said screen when said integrated unit is powered up.

15. (Twice Amended) A system, comprising:
an appliance connected to a power line; and
a monitoring unit operably connected to said appliance via the power line, said appliance comprising a sensor for monitoring a parameter indicative of the performance of said appliance;
said monitoring unit comprising:
means for sampling the parameter available from said sensor at periodic intervals;
means for storing said parameter in said monitoring unit; and
means for comparing the stored parameter with reference data such that a problem associated with the appliance is identified if said appliance fails.

17. (Twice Amended) A system comprises:
an appliance;
a supervisory unit operably connected to the appliance; and

means for transmitting to said supervisory unit status information on [an]the appliance
and for transmitting one of a plurality of priorities associated with the status information[
associated with said supervisory unit];

said supervisory unit comprising a screen and an operating system for displaying on said
screen a message reflecting the status information of said appliance, the operating system
displaying said message on said screen based upon said one of the priorities associated with the
status information.

20. (Amended) The system of claim 17, wherein:

the operating system of said supervisory unit comprises an electrically operated display
device in which said screen is incorporated;

[said status information has an associated priority;]and

the operating system of said supervisory unit is operably configured to turn on said
display device and to display said message based on said [associated priority] one of the
priorities associated with the status information having a predetermined value.